U.S. Department of Energy Orders Self-Study Program

DOE-STD-1063-2011

FACILITY REPRESENTATIVES

National Nuclear Security Administration

DOE-STD-1063-2011
FACILITY REPRESENTATIVES
FAMILIAR LEVEL

OBJECTIVES

Given the familiar level of this module and the resources listed below, you will be able to answer the following questions:

1. What are the purpose and scope of DOE-STD-1063-2011?
2. What are the definitions of the terms listed in section 3 of DOE-STD-1063-2011?
3. What are the duties, responsibilities, and authorities of facility representatives (FRs) and other key personnel?
4. What are the requirements of the FR program?
5. What are the Department of Energy (DOE)-wide FR performance indicators (PIs)?
6. How are DOE-wide FR PIs calculated?
7. What are the FR program objectives that should be measured by an FR program assessment?
8. What are the three major sections of an FR program assessment?
9. What elements must be included in each FR staffing analysis?
10. What elements must be included in all FR site staffing analyses?

Note: If you think that you can complete the practice at the end of this level without working through the instructional material and/or the examples, complete the practice now. The course manager will check your work. You will need to complete the practice in this level successfully before taking the criterion test.

RESOURCES

10 CFR 830, "Nuclear Safety Management." January 1, 2011.
10 CFR 835, "Occupational Radiation Protection." January 1, 2011.
10 CFR 835, Subpart M, "Sealed Radioactive Source Control." January 1, 2011.
40 CFR 68.130, "List of Substances." October 1, 2010.
40 CFR 355, appendices A and B, "The List of Extremely Hazardous Substances and Their Threshold Planning Quantities." October 1, 2010.
DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*. August 19, 2003.
DOE M 360.1-1B, *Federal Employee Training Manual*. October 11, 2001.
DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*. April 25, 2011.
DOE O 422.1, *Conduct of Operations*. June 29, 2010.
DOE O 426.1, *Federal Technical Capability*. November 19, 2009.
DOE P 426.1, *Federal Technical Capability Policy for Defense Nuclear Facilities*. December 10, 1998.
DOE-STD-1027-92, CN1, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports.* September 1997.
DOE-STD-1063-2011, *Facility Representatives.* February 2011.
DOE-STD-1080-97, *Guide to Good Practices for Oral Examinations*. September 1997.
DOE-STD-1146, *General Technical Base Qualification Standard*. December 2007.
DOE-STD-1151, *Facility Representative Functional Area Qualification Standard*. October 2010.
DOE-STD-1204-97, *Guide to Good Practices for the Development of Test Items*. January 1997.
DOE-STD-1205-97, *Guide to Good Practices for the Design, Development, and Implementation of Examinations*. June 1997.

INTRODUCTION

The familiar level of this module is divided into three sections. The first section addresses the purpose and scope of DOE-STD-1063-2011, the purpose of the FR program, and the duties, responsibilities, and authorities of FRs and other key personnel. In the second section, the requirements of the FR program are discussed. The third section covers the three appendices of this standard: FR performance indicators, an FR program assessment guide, and the process to determine FR staffing. We have provided examples and a practice to help familiarize you with the material. The practice will also help prepare you for the criterion test.

Before continuing, you should obtain a copy of the resources. Copies of the directives are available at http://www.directives.doe.gov/ and the standards are available at http://www.hss.doe.gov/nuclearsafety/ns/techstds/standard.html. The course manager can also provide copies of these documents. Spend some time reviewing the documents so that you are familiar with the sections each contains. You will need to refer to these documents to complete the examples, practice, and criterion test.

SECTION 1

Purpose of DOE-STD-1063-2011

To help ensure that DOE FRs are selected based on consistently high standards and from the best-qualified candidates available, that they receive the training required for them to function effectively, and that their expected duties, responsibilities, and authorities are well understood and accurately documented.

Scope of DOE-STD-1063-2011

- To define the duties, responsibilities and qualifications for DOE FRs, based on facility hazard classification; risks to workers, the public, and the environment; and the operational activity level
- To provide the guidance necessary to ensure that DOE's hazardous nuclear and non-nuclear facilities have sufficient staffing of technically qualified FRs to provide day-to-day oversight of contractor operations

Purpose of the FR Program

- To ensure that competent DOE staff personnel are assigned to oversee the day-to-day contractor operations at DOE's hazardous nuclear and non-nuclear facilities

Duties, Responsibilities, and Authorities of FRs and Other Key Personnel

- Operational awareness: An FR shall be thoroughly familiar with their assigned facility, operating procedures, facility authorization bases, operating organizational structure, and key process control personnel.
- Communication: The FR shall maintain frequent communication with field element supervision.

- Availability: The FR shall be available to respond to facility events and serve as the DOE presence for special operations.
- Independence: An FR should be in a position to provide information to DOE line management independent of programmatic responsibilities.
- Scope of reviews: The FR shall observe, evaluate, and report on the effectiveness of the operating contractor in multiple areas important to safe, efficient operations, such as operational performance, quality assurance, management controls, emergency response readiness activities, and assurance of worker health and safety.
- Oversight routine: FRs should vary their day-to-day presence in assigned facilities to show a degree of unpredictability and spontaneity based on the FR's judgment regarding what is appropriate to observe and assess.
- Stop work authority: The FR shall stop work in the following instances, or in accordance with the guidance provided by the field element manager (FEM):
  - Conditions exist that pose an imminent danger to the health and safety of workers or the public.
  - Conditions exist that, if allowed to continue, could adversely affect the safe operation of, or could cause serious damage to, equipment or the facility.
  - Conditions exist that, if allowed to continue, could result in the release, from the facility to the environment, of radiological or chemical effluents that exceed regulatory limits.
- Relationship of FR with DOE managers: FRs should periodically meet with line/program managers and senior line managers within the field element to provide information related to the assigned facilities.
- Relationship of FR with other DOE oversight personnel: FRs shall follow the guidance provided in DOE O 426.1, *Federal Technical Capability,* and their local procedures in this regard.
- Relationship of FR with operating contractor: In defining this relationship, the following points are emphasized:
  - The FR functions as a part of DOE line management and, therefore, should exercise authority consistent with specific program and management guidance established by the field element.
  - The FR is the primary point of contact for the contractor to notify DOE of reportable occurrences as prescribed in DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*.
  - The contractor is responsible for the safe and efficient operation of the facility.
  - The FR is responsible for determining that the contractor is operating the facility in a safe and efficient manner, consistent with the established safety expectations and requirements.
  - Although the FR identifies deficiencies, the ultimate responsibility for identifying and correcting deficiencies rests with the operating contractor.
  - Minor events or problems are frequently clues that indicate more general problems in the contractor's organization, management, personnel abilities, or practices.

Therefore, attention to detail in the identification and correction of minor problems can result in significant improvements in the contractor's performance.

- The FR shall adhere to certain rules of conduct, or protocol, while performing assigned duties, including the facility's approved conduct of operations procedures. Formal protocols should be established to include the following:
  - FRs should avoid interrupting operators in their work.
  - The FR should maintain frequent contact with facility management.
  - FRs should use established chains of command for all requests for action, except when exercising stop work authority.
  - FRs shall keep a record of their activities and observations in accordance with local procedures.

Duties, Responsibilities, and Authorities of Other Key Personnel

- Deputy Secretary:
  - Establish DOE policy on FRs.
  - Resolve any cross-organizational disputes regarding FRs.
  - Ensure the FR program manager and cognizant secretarial officers take actions necessary to consistently meet program goals.
- DOE FR program manager:
  - Guide DOE-wide program implementation and continuous improvement.
  - Monitor DOE-wide implementation performance and disseminate information to senior DOE and NNSA managers to promote improved performance.
  - Sponsor an annual workshop to share lessons learned and promote continued effectiveness of the FR program.
  - Participate in periodic assessments of site FR programs.
  - Maintain the DOE FR webpage.
  - Host periodic FR steering committee meetings.
- Cognizant secretarial officers:
  - Review overall effectiveness of FR programs at assigned field elements, including performance indicator information and accomplishment of program self-assessments and associated corrective actions.
  - Ensure adequate allocation and use of resources for FR programs at assigned field elements.
- Field element managers:
  - Determine facility coverage needs and make assignments of qualified FRs to maintain day-to-day oversight of applicable facilities, using appendix C of DOE-STD-1063-2011.
  - Select, train, and qualify FRs so that they are capable of performing their assigned duties.
  - Clearly define the functions, responsibilities, and authorities of the FRs, and ensure that affected DOE and contractor managers understand the role of the FRs and

provide the necessary access and support.
- Establish a formal protocol for FRs to follow while performing their duties.
- Periodically evaluate the effectiveness of the field element's FR program and pursue changes to improve overall performance and effectiveness, using appendices A and B of DOE-STD-1063-2011.
- Provide developmental opportunities for FRs. Examples of such opportunities could be short-duration details to other organizations or specialized training.
- Assign an FR program sponsor from among the field element's senior managers to guide and direct implementation within the field element.
- Establish the authority of the FR to represent DOE line management to the contractor regarding operational safety issues except where this would change scope, cost, or schedule.
- Interact frequently with FRs and take appropriate action to resolve identified safety and management issues.
- Ensure that FRs have the authority to stop work in the facility. The FEM shall ensure that contractors and subcontractors are aware that FRs have this authority and that this authority covers all facility-related work performed by the contractor and subcontractor.

- Facility representative program sponsors:
  - Serve as a management advocate for FRs within the field element to resolve programmatic issues.
  - Guide and direct FR program implementation within the field element.
  - Ensure that FRs are effectively contributing to the field element and that DOE line/program managers are effectively using FRs' contributions.
  - May appoint or secure the appointment of a site FR program manager, team leader, or supervisor to manage day-to-day implementation issues for the field element and participate in FR steering committee discussions.

Note: You do not have to do example 1 on the following page, but it is a good time to check your skill and knowledge of the information covered. You may do example 1 or go to section 2.

EXAMPLE 1

Using the familiar level of this module and the resources, answer the following questions.

1. What is the purpose of DOE-STD-1063-2011?

2. What is the definition of hazardous material?

3. What DOE position is responsible for hosting periodic FR steering committee meetings?

Note: When you are finished, compare your answers to those contained in the example 1 self-check. When you are satisfied with your answers, go to section 2.

EXAMPLE 1 SELF-CHECK

1. What is the purpose of DOE-STD-1063-2011?
   To help ensure that DOE FRs are selected based on consistently high standards and from the best-qualified candidates available, that they receive the training required for them to function effectively, and that their expected duties, responsibilities, and authorities are well understood and accurately documented.

2. What is the definition of hazardous material?
   Any solid, liquid, or gaseous material that is toxic, explosive, flammable, corrosive, or otherwise physically or biologically threatening to health.

3. What DOE position is responsible for hosting periodic facility representative steering committee meetings?
   The DOE FR program manager

SECTION 2, FR PROGRAM REQUIREMENTS

Facility Coverage and Staffing

Field element managers shall evaluate each hazardous facility to determine an appropriate level of FR coverage using the process described in appendix C of DOE-STD-1063-2011, as summarized in the following bullets. Field element managers

- shall assign one or more full-time FRs to each nuclear hazard category 1 facility, unless the FEM and cognizant secretarial officer agree that less coverage is necessary;
- should make assignments so that FRs spend a significant portion of their time in their assigned facility(s);
- should take necessary steps to ensure that departing FRs are replaced in a timely manner, to the degree that FRs are transferred or otherwise lost from the program;
- should also consider, as part of the overall staffing strategy, making use of existing DOE and NNSA technical intern programs to provide a source of prospective FR candidates, especially for sites that have experienced historically high attrition rates;
- should review staffing plans and assignments of FRs at least annually to ensure that coverage assignments and responsibilities are appropriate to the hazards and level of activity involved, and shall reevaluate each hazardous facility on a biennial basis to determine an appropriate level of FR coverage;
- may also establish provisions for changing coverage as the degree of hazard, complexity, or other governing factors changes;
- should make FR assignments to optimize effective interaction with the facility operating organization line management responsible for ensuring safe and efficient performance at the facility;
- should ensure that adequate facility coverage is maintained by qualified FRs during any period the assigned FR has extended absence.

Facility Assessment Plans and Reports

Field element managers should develop facility assessment plans consistent with the requirements in DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*. Assessment plans may review compliance with the safety directives and standards listed in section 2.1 of DOE-STD-1063-2011.

- In order to facilitate a direct communications link with senior contractor management, the FR and DOE managers should meet with senior contractor managers on a periodic basis to report the results of FR assessments and to discuss trends and systemic issues.

Unencumbered Access

Field element managers shall ensure, as summarized in the following bullets, that FRs have independent, direct, and immediate access to contractor personnel, facilities, and records, as necessary, to carry out their assigned responsibilities.

- Field element managers shall ensure that FRs have immediate, unannounced access to every assigned facility, consistent with necessary security and safety controls.

- Field element managers shall ensure that contractor management affords the FR the opportunity to attend meetings, training classes, operator certification boards/examinations, etc., that contribute to the execution of the duties and responsibilities of the FR.
- Access to some contractor records may be limited as specified in the contract between DOE and the contractor.
- Due to safeguards and security requirements, FEMs may require that more than one properly trained and cleared individual be present before access can be gained to some areas.

Training and Qualification

The FEM shall develop the overall qualification program in accordance with DOE O 426.1, DOE M 360.1-1B, *Federal Employee Training Manual*, and any additional elements defined in DOE-STD-1063-2011. The steps involved in the various levels of qualifications are described below and summarized in table 1, which follows this section.

- Formal training: FEMs shall ensure that FRs receive the training necessary for the position.
- On-the-job training: FEMs shall establish the on-the-job training requirements regarding the controls, activities, processes, and specialized procedures necessary for qualification.
- Continuing training: FEMs shall establish a continuing training program to enhance and strengthen the knowledge, skills, and abilities of FRs to ensure that they are aware of significant new hazards or activities they may encounter during the performance of their duties, and to provide a mechanism to share lessons learned from facilities on the site and across the complex.
- Qualification standard: FEMs shall establish a corresponding standard detailing the required level of knowledge for each site/facility-specific objective.
- Qualification card: FEMs shall establish an FR qualification card or equivalent for each major facility or group of lesser facilities for which they are responsible. The qualification card should contain the items specified in section 5.4.5 of DOE-STD-1063-2011.
- Training equivalencies: FEMs shall provide justification for each equivalency based on DOE O 426.1.
- Core qualification: Core qualification requirements are presented in DOE-STD-1146-2007, *General Technical Base Qualification Standard* and DOE-STD-1151-2010, *Facility Representative Functional Area Qualification Standard*. Having one qualification card that covers both core and site/facility-specific requirements is acceptable.
- Interim qualification: DOE FEMs shall establish and document the process and the specific requirements to be met prior to an FR candidate being assigned to provide interim coverage in a facility for which he or she is not fully qualified.

- Full qualification: Full qualification occurs when all core and facility-specific qualification requirements have been completed. Qualification is granted by the FEM or designee.
- Qualification on additional facilities after full qualification: Upon assignment of FRs to a different or additional facility or site, FEMs or their designees should identify any additional qualification requirements that are necessary for an FR to complete for that facility or site.
- Requalification: FRs shall requalify at a minimum of every five years. DOE FEMs shall document the requalification process, which shall as a minimum include the requirements specified in section 5.4.11 of DOE-STD-1063-2011.
- Proficiency: FEMs shall formally define proficiency requirements, which shall include actions required to regain proficiency following periods of inactivity as an FR, and the length of time which initiates a need for proficiency training. DOE FEMs shall document the actions required to regain proficiency following periods of inactivity as an FR, which shall as a minimum include the requirements specified in section 5.4.12 of DOE-STD-1063-2011.
- Examinations: The FEM, or designee, shall develop formal procedures for the administration of facility evaluated walkthrough examinations, written examinations, oral examinations, and failure of written or oral examinations. Requirements for these examinations and when they are to be administered are listed in section 5.4.13 of DOE-STD-1063-2011 and table 1.

Table 1. Facility representative qualification

QUALIFICATION PROCESS	DOE-STD-1146, General Technical Base Qualification Standard	DOE-STD-1151, FR Functional Area Qualification Standard	Site-/Facility-Specific Competencies	Facility Evaluated Walkthrough Examination	Exam Type	Oral Board
1. Core Qualification	X [Note 1]	X	-	-	Written [Note 2]	-
2. Interim Qualification	X [Note 1]	X	And as determined by the Field Element Manager when an FR provides interim coverage in a facility for which he or she is not fully qualified.			
3. Full Qualification	Core Qualified as Noted in Row 1, and →		X	X	Written [Note 2]	X [Note 4]
4. Qualification on additional facilities after Full Qualification	-	-	X	X	Written and/or Oral check-out [Note 4]	-
5. Periodic Requalification [Note 3]	Items added, and areas of theory or fundamentals, if any, as determined by the Supervisor.		Changes to system, process, and facility documentation, as determined by the Supervisor.	[Note 5]	Written and/or Oral check-out [Notes 4,5]	-
6. To regain proficiency after inactivity as an FR	Any items added	Any items added	Any items added	[Note 5]	Written and/or Oral check-out [Notes 4,5]	-

Notes for table 1:

1. Satisfactory completion of the general technical base course on the DOE online learning center may be used.
2. Written exams for core qualification and full qualification may be combined into a single written exam.
3. The steps in row 5, periodic requalification, may be combined with steps in rows 4 and/or 6 to meet those qualifications concurrently, if necessary.
4. Oral check-outs and boards are described in more detail in DOE-HDBK-1080, *Guide to Good Practices for Oral Examinations.*
5. A facility evaluated walkthrough examination may be utilized in place of a written and/or oral check-out.

Source: DOE-STD-1063-2011

Designated Facility Representatives

Field element managers may establish criteria for designating FRs to indicate unique technical proficiency for the purposes of retention. Designation is not equivalent to full qualification.

Recruitment, Selection, Retention, and Advancement Considerations

Field element managers should take necessary steps to ensure that FR positions are career enhancing and remain desirable to FR candidates, including incentives to maintain qualification and encouragement of skills enhancement through continuing training, graduate study, and professional certifications.

Recruitment and Selection

Field element managers should develop position descriptions and vacancy announcements that reflect the requirements of DOE-STD-1063-2011, and select candidates based on the following criteria:

- Education requirements: Field element managers should establish the expected minimum education necessary to provide competent technical assessment of contractors.
- Experience requirements: Field element managers should establish and apply facility- and operations-specific experience criteria that reflect the complexity, hazard classification, and activity level of the facility.
- Physical requirements: Field element managers should establish and apply appropriate physical requirements.
- Security requirements: Field element managers should establish and apply appropriate security requirements so that FRs have adequate security clearances to fulfill their duties.

Retention and Advancement

Field element managers should seek to understand reasons for unusually high FR attrition rates and counter those reasons using appropriate mechanisms. These mechanisms may include

- recognition and real-time management acknowledgement
- access and interaction with senior DOE and facility managers such as on joint walkthroughs and feedback meetings
- mentoring from senior DOE and facility managers
- qualification bonuses
- performance bonuses
- requalification bonuses
- anniversary bonuses
- educational reimbursement incentives
- quality step increases based on experience and performance
- higher pay grade or band based on higher facility hazard category, scope of facility assignments, and/or responsibilities such as FR program managers, supervisors, work leads, and team leads
- promotions based on knowledge and experience
- reimbursement incentives for obtaining and maintaining professional certifications

Facility Representative Program Performance Assessment and Feedback

- Performance indicators: Carefully chosen PIs can provide valuable measures of the effectiveness of FR programs. DOE-wide PI's are shown in appendix A of DOE-STD-1063-2011.
- Field element self-assessments: Field element managers shall ensure that their FR programs are evaluated periodically (not to exceed three years) relative to the requirements in sections 4 and 5 of DOE-STD-1063-2011.
- Peer reviews: Field element managers or designees should invite FRs and/or FR management from other sites to perform peer reviews of their FR programs.
- Annual FR workshop: Field element managers should encourage as many FRs, FR program sponsors, and line managers as possible to attend the workshops to share information with other sites and identify potential improvements for use in their own FR and safety management programs.

Note: You do not have to do example 2 on the following page, but it is a good time to check your skill and knowledge of the information covered. You may do example 2 or go directly to section 3.

EXAMPLE 2

1. What are four of the FR program requirements?

2. What are the four methods that may be used by FEMs to periodically evaluate and adjust their FR programs?

3. What is the purpose of "designation" as it applies to designated FRs?

Note: When you are finished, compare your answers to those contained in the example 2 self-check. When you are satisfied with your answers, go on to section 3.

EXAMPLE 2 SELF-CHECK

1. What are four of the FR program requirements?
   Note: Any four of the following represents a correct answer.
   - Facility coverage and staffing
   - Facility assessment plans and reports
   - Unencumbered access
   - Training and qualification
   - Designated facility representatives
   - Recruitment, selection, retention, and advancement considerations
   - Facility representative program performance assessment and feedback

2. What are the four methods that may be used by FEMs to periodically evaluate and adjust their FR programs?
   - Performance indicators
   - Field element self-assessments
   - Peer reviews
   - Annual facility representative workshops

3. What is the purpose of "designation" as it applies to designated FRs?
   To indicate unique technical proficiency for the purposes of retention based upon unique competitive level codes.

SECTION 3, APPENDICES OF DOE-STD-1073-2009

Appendix A, Facility Representative Performance Indicators

Carefully chosen PIs can provide valuable measures of the effectiveness of FR programs. These PIs will be used by FEMs and DOE headquarters personnel to evaluate program effectiveness. Other PIs may be useful at a local level to determine the need for local program changes, depending on circumstances that may be unique to a site. DOE-wide FR PIs are relatively few in number, easy to measure and report, applicable to all FR programs, and resistant to misinterpretation.

DOE-wide FR PIs

- Staffing level
- Attrition
- Percent of FRs core qualified
- Percent of FRs fully qualified
- Accomplishments
- Percent of time FR is performing FR duties

DOE-wide FR PI categories

- Staffing
- Training and qualification
- FR program accomplishments
- Fulfilling the FR role

Refer to the tables provided in appendix A for methods of calculation and goals (or targets) for FR PIs.

Appendix B, Facility Representative Program Assessment Guide

An effective FR program has many elements, which are intended to yield a program that provides DOE facilities with well-trained FRs who spend appropriate amounts of time in their facilities and can work effectively with their contractor management counterparts. The program, to be effective, needs the functional support of management. To maintain the continued support of DOE management, the FR program needs to demonstrate its continued performance and effectiveness, which is to be assessed periodically using this guide. Any assessment of an FR program should determine the extent to which management expectations and the objectives below are being met, and provide recommendations on improving the program's effectiveness.

Facility Representative Program Assessment Objectives

- Well-trained, qualified FRs
- Adequate coverage for DOE facilities
- FRs provide effective oversight of facilities
- Adequate functional support from the field element management
- Performance assessment and feedback program in place

Facility Representative Program Assessment Sections

- Assessment lines of question: Lines of question examine the strength and maturity of the field element's FR program and the effectiveness of its FRs by assessing performance at meeting the five objectives of the FR program. The lines of question are based on program requirements (i.e., "shall" statements), recommended practices (i.e., "should" statements), and suggested practices (i.e., "may" statements). Not all lines of question are based on "shall" requirements and may not apply to all FR programs.
- Approach: The approach to be used in performing the FR program assessment is expected to vary between field elements. In order to obtain a valuable assessment of the program, the methodology listed under "approach" is presented.
- Report: This section contains the report format that can be used to document reviews of FR programs. The report should be in narrative format and include all listed items.

Refer to appendix B for additional detail on the sections of FR program assessments described above.

Appendix C, Process to Determine Facility Representative Staffing

This appendix describes an analytical process to determine FR staffing for all hazardous facilities at a site. This method provides a technical approach to determine the appropriate amount of FR oversight necessary for a facility given its hazard level, operational activity and complexity, and programmatic importance. This staffing approach is also designed to provide DOE with a common human capital strategy approach such that the DOE can objectively analyze, allocate, budget, and justify FR resources throughout the DOE complex.

Elements That Must be Included in a FR Staffing Analysis

- An analysis of facilities based on hazards or risks present to the public, worker, and/or environment
- A method for determining FR coverage (e.g., continual, frequent, occasional, etc.) based on facility categorization and adjusted for other factors identified in this appendix such as facility size, operations complexity, hazards and risks, etc.
- A determination of FR full time equivalent (FTE) requirements based on coverage assigned and adjusted to address factors considered in the bullet above
- A determination of actual staffing based on FR FTE requirements adjusted to account for actual staff time available to support the FR function when competing activities such as collateral duties, leave, training, etc. are considered

Overview of the FR Staffing Analysis Process

The process for conducting an FR staffing analysis involves generating and analyzing the data necessary to complete table 1 (determination of FR coverage) of appendix C, which is reproduced below (as table 2) for convenience. The following provides a basic description of the steps involved in completing this table. Appendix C should be consulted for additional detail.

Table 2. Determination of facility representative coverage

(Facility X, Y, and Z provided as examples)

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H
Facility or Groups of Facilities	**Facility Hazard Categorization**	**Facility Activity Level**	**Base FR Facility Coverage Level**	**Base FR FTE Level**	**Adjusted FR FTE Coverage Level**	**Percentage of Time FR is Available to Provide Coverage**	**Final FR FTE Coverage Level**
Nuclear Facility X	Nuclear HazCat 2	High	Frequent	0.50 – 1.00	1.50	0.73	2.05
Biosafety Facility Y	Biosafety Level 3	Medium	Intermittent	0.25 – 0.50	0.25	0.73	0.34
Non-Categorized Facility Z	Non-Categorized High	Medium	Intermittent	0.25 – 0.50	0.50	0.73	0.68
						Total FR FTEs Required	**3.07**
						Total FR FTEs Onboard	**2.0**
Explanation of Difference	Hiring action in progress to add 1 FR.						

Source: DOE-STD-1063-2011

- Column A—Facility or groups of facilities. Determine all hazardous facilities, or groups of hazardous facilities, and enter them in column A.
- Column B—Facility hazard categorization.
  - Determine the facility hazard categorization and list in column B.
  - For nuclear hazard, biological hazard, and chemical hazard facilities enter the categorization that has been determined using the references listed in this section.
- Column C—Facility activity level. Determine the facility activity level as defined in this section and enter the result in column C.
- Column D—Base FR facility coverage level. Determine the recommended base coverage level using the guide provided in this section and enter in column D.
- Column E—Base FR FTE level. Determine the recommended base FTE level using the guide provided in this section and enter in column E.
- Column F—Adjusted FR FTE coverage level. Following establishment of the base FR FTE level for each facility, the FEM may further adjust the level of coverage based on factors discussed in this section. Enter this adjusted FTE coverage level in column F.
- Column G—Percentage of time FR is available to provide oversight. Utilizing quarterly FR PI data for the last four calendar quarters, determine the average percentage of time FRs spent performing contractor oversight (DOE goal is 65 percent), and enter that value in column G.

- Column H—Final FR FTE coverage level. Calculate for each hazardous facility by dividing the adjusted FR FTE coverage level from column F by the percentage of time available to provide FR coverage from column G. Enter the result in column H.
- Total number of FR FTEs required. Sum the values in column H to obtain the total number FR FTEs required, and enter that total in the space provided.
- Total FR FTEs onboard. Enter the number of FR FTEs currently available to perform oversight at the facilities or groups of facilities included in the analysis.
- Explanation of difference. Provide a brief explanation of what action is planned to resolve any difference between total FR FTEs required and the total FR FTEs onboard.

Note: You do not have to do example 3 on the following page, but it is a good time to check your skill and knowledge of the information covered. You may do example 3 or go directly to the practice.

EXAMPLE 3

1. What are the four categories of DOE-wide FR performance indicators?

2. What are the three major sections of an FR program assessment?

3. What is the intent of the elements of an effective FR program?

Note: When you are finished, compare your answers to those contained in the example 3 self-check. When you are satisfied with your answers, go on to the practice.

EXAMPLE 3 SELF-CHECK

1. What are the four categories of DOE-wide FR performance indicators?
   - Staffing
   - Training and qualification
   - FR program accomplishments
   - Fulfilling the FR role

2. What are the three major sections of an FR program assessment?
   - Assessment lines of question
   - Approach
   - Report

3. What is the intent of the elements of an effective FR program?
   To yield a program that provides DOE facilities with well-trained FRs who spend appropriate amounts of time in their facilities and can work effectively with their contractor management counterparts.

PRACTICE

This practice is required if your proficiency is to be verified at the familiar level. The practice will prepare you for the criterion test. You will need to refer to the resources to answer the questions in the practice correctly. The practice and criterion tests will also challenge additional analytical skills that you have acquired in other formal and on-the-job training.

1. For what qualification levels may the written exams be combined into a single written exam?

2. What is the definition of operational awareness?

3. How is the percentage of FRs that are core qualified calculated for a DOE facility?

4. Match each DOE position in the left column with one of its responsibilities in the right column.

____	FR program sponsor	A.	Guides DOE-wide program implementation and continuous improvement
____	Cognizant secretarial officer	B.	Establishes a formal protocol for FRs to follow while performing their duties
____	Field element manager	C.	Resolves any cross-organizational disputes regarding FRs
____	FR program manager	D.	Guides and directs FR program implementation within the field element
		E.	Ensures adequate allocation and use of resources for FR programs at assigned field elements

5. When are FR quarterly performance indicator reports due?

6. What are the FR program objectives that should be measured by an FR program assessment?

7. What are four DOE-wide performance indicators?

8. What are two of the elements that must be included in each FR site staffing analysis?

Note: The course manager will check your practice and verify your success at the familiar level. When you have successfully completed this practice, go to the general level module.

DOE-STD-1063-2011
FACILITY REPRESENTATIVES
GENERAL LEVEL

OBJECTIVES

Given the familiar level of this module, a scenario, and an analysis, you will be able to answer the following questions:

1. Were the contractor's actions correct? If not, what are the correct and/or omitted actions?
2. Were causes cited correct and complete? If not, what are the correct and/or omitted causes?

Note: If you think that you can complete the practice at the end of this level without working through the instructional material and/or the examples, complete the practice now. The course manager will check your work. You will need to complete the practice in this level successfully before taking the criterion test.

RESOURCES

DOE Orders Self-Study Program, DOE-STD-1063-2011, Familiar Level. August 2011.
DOE-STD-1063-2011, *Facility Representatives.* February 2011.

INTRODUCTION

The familiar level of this module introduced the objectives of DOE-STD-1063-2011. Several definitions and the requirements associated with the standard were also discussed. In the general level of this module, students are asked to apply the information contained in the familiar level to a scenario. Each scenario will include a situation, the actions taken to remedy the situation, and the causes of the situation. Students will be asked to review the contractor's actions and decide if they were correct. Students will also be asked to decide if the correct causes were cited in each situation. Please refer to the familiar level and the resources to make your analysis and answer the questions. You are not required to complete the example. However, doing so will help prepare you for the practice and criterion test.

Note: You do not have to do the example on the following page, but it is a good time to check your skill and knowledge of the information covered. You may do the example or go on to the practice.

EXAMPLE SCENARIO

Please review the following scenario, and then answer these questions.

1. Were the contractor's actions correct? If not, what are the correct and/or omitted actions?
2. Were causes cited correct and complete? If not, what are the correct and/or omitted causes?

Scenario

On February 28, 2007, while preparing a waste shipment for offsite disposal, it was discovered that a radioactive source was missing from its designated, protective shielded storage container. The source is a 22.5 millicurie sealed radium-226 source that had been previously used for calibrating equipment. The source was declared as waste in the mid-1990s and had been stored in various locked storage areas on the plant site, along with other waste sources, until being readied for final disposition. The source itself was contained in a small piece of metal about one inch long and 3/8-inch in diameter (about the size of a medicine gel capsule).

In November 2006, a subcontract was awarded to dispose of the waste sources. The sources required characterization prior to the subcontractor accepting control of them. The sources were moved from the category 2 nuclear facility temporarily to a locked sea-land container on the south side of the facility on December 14, 2006 and later to the facility warehouse on January 8, 2007 to perform the characterization. In both cases, these moves were conducted in accordance with waste management procedures and radiological work permits. In the process of relocating this particular source container to the warehouse, the wooden box holding the lead pig believed to contain the waste source slid off a wooden transport pallet. The wooden box lid dislodged, exposing the lead pig. The radiological control technician (RCT) observed that the lid of the pig was slightly askew and the pig closure nuts were off the threaded pins. This prompted the RCT to conduct a survey to verify that the source had not been exposed or possibly fallen out of the pig. The RCT conducted the survey and was satisfied that the source had not been exposed or fallen out. The plug was adjusted back on the pig and the lid was returned to the wooden box. Once the RCT ensured the box was banded shut, the source move continued. Subsequent investigations have determined that the source was not present in the container when it was banded during the move on January 8, 2007.

Following non-destructive assay (NDA) measurements of source containers at the facility warehouse, the subcontractor requested on February 23, 2007 verification of information on a waste source depicted in the request for disposal (RFD) document for the radioactive source described above. The NDA measurements were indicative of a depleted source. Because Ra-226 has a 1602 year half-life, a source purchased (and assayed) in 1954 would still have over 98% of its original activity. On February 28, 2007, the wooden box and lead pig were opened and the same configuration was observed as when the wooden box was banded on January 8, 2007. Once the pig was opened, it was discovered that the source was not present.

Immediate actions taken included the following:

- Stopped work
- Notified management

- Initiated a problem report
- Held a critique

Corrective actions included the following:

- Assigned coaches with extensive expertise and experience in conduct of operations to mentor superintendents, task leaders, and other selected personnel
- Developed a procedure that addresses receipt, verification, security, storage and disposal of waste sources, and other items that would require a similar degree of rigor applied to ensure safeguarding and loss prevention
- Conducted appropriate training of responsible individuals on the new waste source procedure
- Revised the radiation control procedure on handling accountable and/or waste sources to ensure more stringent controls are implemented during their movement
- Conducted appropriate training of responsible individuals on the revised radiological control procedure
- Issued a formal lessons learned on the potential consequences of treating radioactive sources as waste

An investigation of the incident revealed the following causes:

- When the source was turned over to the DOE contractors as a waste in 1996, the controls placed on sources were no longer required. Sources in active use are controlled, inventoried annually, inspected and tested for leakage regularly. Once the sources were declared as radioactive waste, they were not subject to the controls applied to sources.
- There were no inspections/leakage tests of waste sources in storage prior to final disposal other than on the external containers prior to this investigation. The due diligence at contract turnover did not include physical verification of waste sources. Also, the lack of controls on the sources permitted possible unknown access to the sources.
- No source verification checklist was developed at contract transition. The sources that were turned over from the previous contractor were never verified against the waste RFDs. Therefore there is no formal validation that the source was in the pig at transition from the previous contractor to the current contractor.

Take some time to review the example scenario and the actions the contractor took to correct the situation. Then decide if the contractor's actions were correct and complete. Finally, determine if the causes that were cited in this scenario were correct and complete.

Write your answers on the next page and then compare your answers to those contained in the example self-check.

EXAMPLE SELF-CHECK

Your answer does not have to match the following exactly. You may have added more corrective actions or cited other causes. To be considered correct, your answer must include at least the following.

The immediate and corrective actions taken in this situation were correct. One additional immediate action and two additional corrective actions were omitted.

Immediate action:

- A radiological survey of the facility warehouse should have been conducted.

Correctives actions:

- An investigation and root cause determination of the missing source should have been conducted.
- An end-point assessment should have been conducted to verify the new waste source procedure and the revised radiological control procedure were being properly implemented.

The correct causes were cited. One additional cause was omitted:

- No problem report was written on January 8, 2007, when the source box dropped off the pallet because the RCT believed the source was in the container. A survey was performed of the area around the box to determine if the source had fallen out of the box. No elevated readings were observed. Based on the results of the survey, individuals concluded that the source was in the pig without visual verification or a contact survey on the top of the box.

PRACTICE

This practice is required if your proficiency is to be verified at the general level. The practice will prepare you for the criterion test. You will need to refer to the familiar level and the resources to answer the questions in the practice correctly. The practice and criterion test will also challenge additional analytical skills that you have acquired in other formal and on-the-job training for the facility representative position.

Please review the following scenario and then answer these questions.

1. Were the contractor's actions correct? If not, what are the correct and/or omitted actions?
2. Were the causes cited correct and complete? If not, what are the correct and/or omitted causes?

Scenario

At 1200 on September 14, 2007, workers identified an un-vented 55-gallon drum while removing it from an 85-gallon overpack. The un-vented drum did not have a filter in the lid. In accordance with procedures, the person-in-charge (PIC) stopped the work activity and notified the operations center so the drum could be properly dispositioned by segregating it. During this time, workers informed the PIC that they had encountered a similar drum on September 13, 2007, and that the operators had vented it. The PIC immediately contacted the operations center and began tracking down the improperly vented drum. He identified the drum, discovered it did not have a filter in the lid, and that it had been vented. The deputy operations manager required the PIC to conduct an immediate retraining of the workers on the correct process to use when encountering an un-vented drum without a filter in the lid. The deputy operations manager authorized work to resume at 1300.

Venting of drums without a filter in the lid is not currently an analyzed operation for this facility and is not authorized. Facility safety basis staff is developing a change to the approved safety basis to authorize drum venting. Because venting drums is not an authorized procedure, it is not part of the facility documented safety analysis or technical safety requirements (TSRs). The action of venting a drum constitutes a potentially inadequate safety analysis.

Existing facility procedures do not allow opening unvented drums. Therefore, an additional reporting criteria associated with deviating from a written procedure is appropriate.

Background: The workers, who had varying skill levels, were performing the work in accordance with a reference procedure that included a step addressing how to process an un-vented drum without a filter in the lid. The same procedure allowed workers to vent drums that had a filter in the lid. At the time this event happened, the PIC stated he was completing administrative paperwork and did not directly observe the event. The PIC stated he normally observes about 90% of the work being performed but occasionally assigns workers the job and he had assigned the observer task to a worker who had been on the job for two weeks. A safety basis worker stated he had recently observed the task being performed and noted that the observer would read each step over a communication system to the operators performing the work. The PIC stated they had moved away

from the worker-read method as worker skills developed and because of the noise-level issue in the work area (>85 decibels). However, there were some new hires involved in this work activity and the PIC believes they moved away from the worker-read method too soon for the new workers.

Immediate actions taken included the following:

- The PIC notified the deputy operations manager that a drum had been improperly vented on September 13, 2007.
- The PIC was directed to provide immediate re-training of the workers which was documented using a sign in roster.

Corrective actions included the following:

- A pre-job briefing was performed to review procedure compliance of holdpoints within the appropriate waste processing procedure.
- A TSR page change was submitted and approved by DOE to allow actions to take for moving and venting an unvented drum.

An investigation of the incident revealed the following cause:

- Wrong action selected based on similarity with other actions. The workers involved in this event, contrary to a standing order stating that work must be stopped if an unvented drum is observed, vented a 55-gallon unvented drum after removing it from an 85-gallon overpack.

Write your answers below and on the next page and then bring the completed practice to the course manager for review.

Note: The course manager will check your practice and verify your success at the general level. When you have successfully completed this practice, the course manager will give you the criterion test.